Section 930

DETERMINATION OF THIN OR ELONGATED PARTICLES IN COARSE AGGREGATE

930.01 Scope

This method of test covers a procedure for determining the percentage, by weight, of thin or elongated aggregate particles.

A particle shall be considered thin or elongated when its length exceeds five times its average thickness.

930.02 Apparatus

1. Balance - A balance with a capacity of at least 1000 g and sensitive to 0.1 g.

2. Sieves - Woven wire-cloth sieves with square openings, conforming to the requirements of AASHTO M-92.

3. Spatula - A spatula or similar tool to facilitate the sorting of aggregate particles.

4. Ruler - Graduation will be in millimeters to measure particle size.

930.03 Test Sample

For aggregate crushed to minus 1 inch material, a test sample shall be prepared consisting of clean, washed representative material retained on the 3/4 inch, ½ inch, 3/8 inch and No. 4 sieves. The test sample shall be batched in accordance with the percentages of crushed aggregate retained on the above sieves as determined by AASHTO T-87: Dry Preparation of Disturbed Soil and Soil Aggregate Samples for Test. The batched sample shall weigh approximately 500 g.

930.04 Test Procedure

1. Weigh the test sample, and place it on a clean, flat surface large enough to permit the material to be spread thinly for inspection.

2. Separate all particles with a length exceeding five times their average thickness, and weigh.

930.05 Calculation

Calculate the percentage of thin or elongated aggregate particles as follows:

$$T = \left(\frac{W1}{W} \right) 100$$

(1) Thin or Elongated Particles

where T = the percentage of thin or elongated particles in tenths.

W1 = the weight of the thin or elongated particles in tenths of a gram.

W = the weight of the original test sample in tenths of a gram.